



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/540,896	03/31/2000	Shunpei Yamazaki	0756-2135	2024

22204 7590 01/07/2004

NIXON PEABODY, LLP
401 9TH STREET, NW
SUITE 900
WASHINGTON, DC 20004-2128

EXAMINER

CHANG, KENT WU

ART UNIT PAPER NUMBER

2673

DATE MAILED: 01/07/2004

13

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/540,896

Applicant(s)

YAMAZAKI ET AL.

Examiner

Kent Chang

Art Unit

2673

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 October 2003.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-40 is/are pending in the application.
- 4a) Of the above claim(s) 12-34 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 and 35-40 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Double Patenting

1. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

2. Claims 1-5 and 35-40 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-17 of U.S. Patent No. 5,414,442 in view of Matsueda (JP 1-156725). Matsueda (JP 1-156725) discloses a switching element using for driving an LCD comprising a crystalline semiconductor film having silicon over a substrate with an insulating surface and a gate electrode adjacent the crystalline semiconductor film with a gate insulating film (element 44, see text under Example 1). Although the conflicting claims are not identical, they are not patentably distinct from each other because it would have been obvious for one of ordinary skill in the art at the time of the invention to use a switching element using for driving an LCD comprising a crystalline semiconductor film having silicon over a substrate with an insulating surface and a gate electrode adjacent the crystalline semiconductor film with a gate insulating film as taught by Matsueda in the device as

recited in claims 1-5 and 35-40 of the current application so as to obtain high speed of switching operation and excellent image quality as suggested by masueda.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 6-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wakai et al (US 4,743,096) in view of Matsueda (JP 1-156725).

Wakai discloses a method for driving an LCD having a plurality of pixels including a signal line and switching elements, and applying pulses to the signal line at intervals of $2^{-1}T$ (binary pulses, see column 5 lines 3-10 and Fig.8). It would have been obvious for one of ordinary skill in the art at the time of the invention to use the method of Wakai to driving any types of LCD including twisted nematic, super twisted nematic, Ferroelectric, antiferroelectric, dispersion, and polymer liquid crystal so as to provide gray scale image in an LCD device. Wakai is silent in using a TFT as a switching element.

Matsueda (JP 1-156725) discloses a switching element using for driving an LCD comprising a crystalline semiconductor film having silicon over a substrate with an insulating surface and a gate electrode adjacent the crystalline semiconductor film with a gate insulating film (element 44, see text under Example 1). Therefore, it would have been obvious for one of ordinary skill in the art at the time of the invention to use a

switching element using for driving an LCD comprising a crystalline semiconductor film having silicon over a substrate with an insulating surface and a gate electrode adjacent the crystalline semiconductor film with a gate insulating film as taught by Matsueda in the device of Wakai so as to obtain high speed of switching operation and excellent image quality as suggested by masueda.

Consider claim 10. It would have been obvious for one of ordinary skill in the art at the time of the invention to use either n-channel type or p-channel type TFT in the device of Wakai as modified since it merely depends on the availability of the TFT. Use either of them would perform equally well in driving the LCD.

Consider claim 11. It would have been obvious for one of ordinary skill in the art at the time of the invention to use a line period of less than 100 μ sec so as to reduce flickers. The driving speed of the LCD depends on the size of the display and the elements being used. However, it is known in the art to increase the driving speed (reduce the line period) by partitioning the display device or using high speed switching elements.

Response to Arguments

5. Applicant's arguments filed 10/7/03 have been fully considered but they are not persuasive.

Applicant's argument regarding the new limitations added in claims 1 and 35 are persuasive, therefore, no art rejections are given to claims 1-5 and 35-40.

Applicant further argues that Wakai does not teach the limitation of applying pulses to the signal line at intervals of $2^{+1}T$ as recited in claim 6. However, in Fig.8,

Wakai show that the binary pulses are applied to the signal lines at each frame, therefore, the intervals between each pulse can also be represented by a binary number multiply by a constant. Note that $2^{i-1}T$ can be any binary number multiply by any constant T (see column 5 lines 3-10 and Fig.8). Applicant should note that the claimed subject matter, not the specification, is the measure of invention.

The remainder of the pertinent topics for argument are present in the appropriate rejections above.

Conclusion

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

CONTACT INFORMATION

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kent Chang whose telephone number is 703-305-4824.

The examiner can normally be reached on Monday to Thursday from 9:00 AM to 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bipin Shalwala, can be reached at 703-305-4938.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks
Washington, D.C. 20231

or faxed to:

(703) 872-9314 (for Technology Center 2600 only)

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is 305-9700.



Kent Chang
Primary Examiner
Art Unit 2673

Kc

1/2/04